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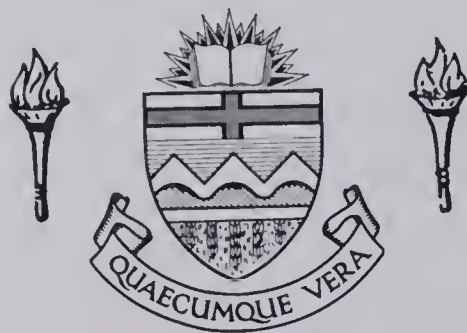
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ATTITUDE CONGRUENCY AND ITS RELATIONSHIP  
TO STUDENT TEACHING SUCCESS

by



FRED OSCAR SCHREIBER

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE  
OF MASTER OF EDUCATION

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

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The undersigned certify that they have read,  
and recommend to the Faculty of Graduate Studies for  
acceptance, a thesis entitled "Attitude Congruency  
and Its Relationship to Student Teaching Success"  
submitted by Fred Schreiber in partial fulfillment of  
the requirements for the degree of Master of  
Education.





## ABSTRACT

The main purposes of this study were (1) to determine if a relationship exists between student teaching success and attitude incongruency as measured by the Education Profession Attitude Questionnaire, and (2) to determine if relationships exist between the student teaching mark and the predictor variables sex, route, and number of years spent in the faculty of education. Data for the study were obtained from 143 questionnaires completed by cooperating teachers and student teachers connected with the University of Alberta's teacher preparation program; the instruments used were the Education Profession Attitude Questionnaire and the Student Teaching Progress Report.

It was found that there was a relationship between the mark a student teacher receives and incongruity of attitudes. Though not significant at the level set a priori, correlations between the criterion and the categories of attitude incongruity scores suggest a curvilinear relationship.

There is no evidence to support the contention that the variables sex, route, and number of years spent in the faculty of education were significantly related to student teaching success. A Chi-square test was used to verify that no significant relationship existed when "opposite



sexes" and "same sexes" of cooperating teachers and student teachers are jointly considered in the evaluation.



## ACKNOWLEDGEMENTS

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Thanks are also extended to the Division of Student Teaching, cooperating teachers, and student teachers for their cooperation and participation.

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## CHAPTER I

### DEFINITION OF THE PROBLEM

One concern of some educators has been the need for a study which reveals the relationship between student teaching assessment and expressed attitude congruency (7). There have been studies made to determine the relationship between teaching success and various measures of mental ability, achievement in academic and professional courses, personality factors, physical fitness, and personality as measured by projective techniques (10, p. 1). Also, these studies have suggested that the foregoing, when used as criteria for teacher evaluation purposes, can offer some explanation for teacher success or failure (7). Teacher preparation institutions often place a great deal of emphasis on the attitudes of prospective teachers. This study will focus on the relationship between attitude incongruity and teacher preparation success.

#### I. THE PROBLEM

##### Statement of the Problem

The purpose of this study was to ascertain if there is a significant relationship between student teaching evaluation and attitude incongruity. The study might also be described in another way. When a cooperating teacher



evaluates the education student, is the resulting report a measure only of the competence of the student teacher or does it reflect the values, preferences, and attitudes of the observer? It may then be hypothesized that a cooperating teacher's rating of a student teacher reflects not only the objective evaluation but also their attitude differences. More specifically, it was an attempt to determine if a relationship, in fact, did exist between attitude incongruity and the mark assigned to the student teacher.

### Importance of the Study

The past decade has been one of concern over the quality of people entering the teaching profession. To stimulate more research in this area, Heikkinen (4) has recommended that a cross-sectional investigation dealing with the relationship of educational attitudes and teaching success be conducted.

John Michaelis, when directing attention toward more extensive research on teaching success and attitudes, specifies a particular study. He suggests that:

. . . A follow-up study should be made of the student teachers in this study, or a similar group, to determine if there are differences in . . . attitude agreement between teachers who succeed and those who do not. Tied in with such a study should be the development of a criterion appropriate for use in the type of teaching situations in which student teachers are placed. It may be that unique teaching situations can be identified within school systems and that account can be taken of each situation in making predictions of success (7, p. 476).





Michaelis specifically calls for an investigation to determine attitude disparity and the ratings that supervisors assign to student teachers (7, p. 477).

Both Heikkinen (4) and Michaelis (7) imply that the relatively long duration of teacher training programs makes it possible, if diagnosed early, to influence professional attitudes in the student teacher. Furthermore, teacher attitudes during a career of several decades influence a considerable student population; but more important, they may influence the value systems of other members of the profession (4, p. 7).

Merton (6) and Parsons (9), writing on role theory, suggest that the incumbent's role expectations and attitudes determine his behavior in enacting his role. In other words, the attitude that the education student has toward student teaching and the expectations of the cooperating teacher, in part, determine the behavior required to become successful in teaching. Also the normative expectations of alter groups serve as the basis upon which they assess the incumbent's role performance. Alter groups for the student teacher are those groups which hold expectations for him. The faculty consultants, cooperating teachers, the general body of student teachers, and the student teaching division may be alter groups of the student teacher. These groups request, either implicitly or explicitly, that certain





teaching methods, motivational techniques, and evaluative procedures be used in the teaching process. The education student is assessed upon this basis as well as others detailed on the Student Teaching Progress Report (Appendix B, p. 94).

That the normative expectations of alter groups serve as the basis upon which they assess the incumbent's role performance seems to imply that if two people are to have similar attitudes, they must have similar experiences and expectations. Therefore, other things being equal, if the peer groups have similar normative expectations, they are likely to have the same perceptions of the incumbent's effectiveness.

Role perception theory suggests that the student teacher who is rated as effective by the cooperating teacher with whom he interacts is one who is able to perceive accurately the expectations which define his role and is able either to adapt his behavior to make it conform with those expectations or to modify the attitude expectations themselves to attain congruency. For example, it is assumed that student teachers are expected to maintain discipline in the classroom during the presentation of their lesson. An education student is aware of this obligation, but more important, perceives that the cooperating teacher considers classroom control as being conducive to a good learning



situation; he, therefore, will take measures to ensure good discipline. However, should the education student not consider classroom management to be a contributing factor to effective teaching, then he may act in one of two ways: modify his own attitude toward discipline to resemble that of the cooperating teacher, or he may attempt to alter the cooperating teacher's view on discipline to more closely fit his own attitude. The emphasis here is not on what alternative should be used, but upon the attainment of congruency of expectations.

The perception of roles can be defined as "an organized response of a person to stimuli in a social context" (13, p. 229). Role perception may be thought of as a sequence of behavior in which the individual first locates the position of the other person, which serves to define the position of the perceiver; then, the role is acted out. Theoretically, incongruity of attitudes and role perception are two important factors influencing student teaching success.

The present study was undertaken to determine what effect attitude differences have on teacher preparation success, thereby contributing additional empirical data to future evaluation of student teachers.



## II. DEFINITION OF TERMS

Attitude. Thurstone defines attitude as ". . . the sum total of a man's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats, and convictions about any specific topic . . ." (14, p. 216). For this study, the above definition will be modified to mean those feelings, preconceived notions, or convictions an individual has toward selected policy statements of the Alberta Teachers' Association as measured by the Education Profession Attitude Questionnaire.

Cooperating Teacher. A cooperating teacher is a person holding a temporary or permanent certificate of qualification as a teacher issued by the Minister under the Department of Education Act who has been selected to direct and supervise the work of student teachers. The cooperating teacher, though employed in a public or separate school, works in cooperation with the Division of Student Teaching, University of Alberta.

Division of Student Teaching. The Division of Student Teaching shall mean a unit of the Faculty of Education responsible for the administration and supervision of the student teaching program, which is closely integrated with the departments of elementary, secondary, and





vocational education. The main administrative processes for the student teaching division are the allocation of students to schools and the selection, supervision, and preparation of cooperating teachers and faculty consultants. The Division of Student Teaching has, as its executive officers, a director and four assistant directors.

Education Profession Attitude Questionnaire. The Education Profession Attitude Questionnaire is an instrument, constructed and later refined by Ratsoy (10), which purports to measure attitude toward twenty policy statements of the Alberta Teachers' Association. A more detailed description of the questionnaire is included in Chapter IV.

Social Category. According to Merton, "social category differs from a social group in that in the former there may be little or no interaction between the occupants of established statuses" (6, p. 285). For this study, social category shall refer to an aggregate of student teachers classified on the basis of sex, route, and years spent in the faculty of education. This definition is similar to Olmsted's where he says that a "group, then, may be defined as a plurality of individuals...who are aware of some significant commonality" (8, p. 21).

Student Teacher. A student in the Faculty of Education, University of Alberta, engaged in student teaching under the direction of the Division of Student Teaching



during the school term 1966-67 is defined, in this study, as a student teacher. Upon successful completion of two or more years of teacher education, the student teacher is certified by the Department of Education as a licensed teacher.

Student Teaching. This is a period of six to ten weeks, during the university year, which the student teacher spends in a public or separate school, as part of the requirements for a teaching certificate. Student teaching is divided into two rounds, one in the fall and one in the spring, each consisting of a period of three to five weeks. It is during this part of the teacher preparation program that the student teacher observes and practices teaching in a guided situation.

### III. ASSUMPTIONS

1. The study assumed that that which was measured by the Education Profession Attitude Questionnaire is an attitude which is more or less invariant.

2. It was assumed that participating education students and cooperating teachers possess sufficient knowledge to complete the questionnaire accurately.



#### IV. LIMITATIONS

1. The findings of this study are not necessarily applicable to student teachers other than those in the sample.

2. For this study, only those attitudes measured by the EPAQ will be considered for the testing of the hypotheses.

3. The study is limited to student teaching experience.

#### V. DELIMITATIONS

1. The study included only the education students, majoring in social studies, engaged in the second round (spring term) of student teaching at the University of Alberta, Edmonton during the 1966-67 term.

2. The study was further delimited by using only the cooperating teacher's rating accorded to the student in the selected sample. Normally the final rating a student receives is a combination of the cooperating teacher's and the faculty consultant's ratings.

3. The investigation was delimited to those students in the social studies pattern of the secondary and elementary routes.





## VI. HYPOTHESES

The main problems formulated into the research hypotheses (1,2), the null hypotheses (1.1.0, 2.1.0, 2.2.0, 2.3.0), and the alternate hypotheses (1.1.1, 2.1.1, 2.2.1, 2.3.1) are stated.

Hypothesis 1: There is a significant relationship between the student teaching mark and the attitude incongruity score.

1.1.0: The student teaching mark is not contingent upon the attitude incongruity score.

1.1.1: The student teaching mark is contingent upon the attitude incongruity score.

Hypothesis 2 considered other variables that may be related to student teaching success.

Hypothesis 2: There is no significant relationship between the student teaching mark and the social categories sex, route, and number of years spent in the faculty of education.

2.1.0: Student teachers classified on the basis of sex do not differ significantly on the student teaching mark.

2.1.1: Student teachers classified on the basis of sex do differ significantly on the student teaching mark.

2.2.0: Student teachers classified by the number of years spent in the faculty of education do not differ significantly on the student teaching mark.

2.2.1: Student teachers classified by the number of years spent in the faculty of education do differ significantly on the student teaching mark.





- 2.3.0: Student teachers classified on the basis of route do not differ significantly on the student teaching mark.
- 2.3.1: Student teachers classified on the basis of route do differ significantly on the student teaching mark.

## VII. ORGANIZATION OF THE THESIS

Chapter I contains the definition of the problem and an indication of the importance of the study. Chapter II is devoted to the conceptual framework and theoretical basis. Chapter III contains a review of literature related to the principle of congruity and a discussion of teacher preparation success studies. The research design including instrumentation, description of the sample, data processing procedure, and statistical tests used is reported in Chapter IV. Chapter V contains the results of the statistical analysis. Chapter VI includes the summary, conclusions, and implications of this study.



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## CHAPTER II

### THEORETICAL FRAMEWORK

This chapter presents a summary of the theoretical concepts which provide the background of understanding for this study. It attempts to describe student teacher behavior as it relates to role theory and the principle of congruity.

#### I. ROLE THEORY

Role theory explains the behavior of individuals in a social system in terms of the expectations held for the positions which are occupied by the individuals. People in these positions behave, in part, according to the way they think they are expected to behave. To some extent, the expectations of the cooperating teacher define the student teacher's role. When acting out a role, the individual is usually aware of the necessary role expectations which are acquired through experience.

Role theorists such as Sarbin (17) and Getzels and Guba (7) consider a role to be a patterned sequence of learned actions or deeds performed by a person in a given situation, thus emphasizing the need for learning a role as well as indicating that role enactment occurs in social situations. The role may be that of a cooperating teacher,



the reciprocal that of the student. Both the teacher and the student may be viewing a third role which belongs to neither of them, that of the student teacher. An investigation, then, can focus upon the role of a teacher, role expectations of the student teacher, and the influence of both on a student teacher's rating when incongruity is present.

The nature of conflict within organizations is clarified by role theory. Cameron (2) and Sarbin (17), in their discussion of role behavior, have indicated that role definers are seldom in complete agreement. This is aptly described by Miklos (10) when he says:

. . . The concept of role conflict refers to the observation that there is never complete agreement within and among the groups which may be considered to hold legitimate expectations for the incumbent of a particular position . . . .

The expectations of student teachers, faculty consultants, and other cooperating teachers may form sanctions for the role of the cooperating teacher. However, expectations may be in conflict when one reference group expects behavior contradictory to that of another or that expected by the incumbent. Intra-group conflict is possible when individuals within one reference group disagree on expectations. Other possibilities for conflict exist when an individual holds attitudes which are different from those of the reference group. The person may be a spouse and parent; hence, conflict



may arise between two or more roles performed by one person.

### Role Theory and Evaluation

Role theory suggests that expectations serve two distinct yet related functions: they serve both to define a role and to evaluate role behavior.

Since the processes of teaching deal with social behavior in an hierarchical environment, teacher evaluation, a part of administration, can be considered to be a series of subordinate-superordinate relationships within a social system. To understand the behavior of role incumbents, both organizational expectations and individual limitations must be known. Since organizations have goal achievement as their main objective, the effectiveness and efficiency of its members become prime means for achieving this end.

The Getzels-Guba (7) model of social behavior (Fig. 1) has proven to be extremely useful. This theory suggests that the main criterion for assessing individual effectiveness is the observed behavior of the individual being rated. According to Getzels and Guba (7), the social system is composed of two classes of phenomena which, simultaneously, are independent and phenomenally interactive. One class of phenomena, referred to as the nomothetic dimension, consists of the institutionalization of certain roles and expectations which direct action toward attainment of the goals of the system. The other class of phenomena, called the idiographic







dimension, is composed of individuals who have certain needs and personalities whose interactions produce social behavior. The nomothetic dimension includes roles which are defined in terms of role expectations which set out for the incumbent the functions to be filled. Some roles are carefully defined while others are not, but to some degree, incumbents of a given role will behave in a similar manner. The lack of complete congruency of behavior among role incumbents is due to the fact that roles are occupied by individuals and no two individuals are exactly alike. Each has specific and different attitudes which will cause him to act in his own characteristic way. Thus, the behavior of a given individual is determined by the perception he holds of the role he occupies in that situation and also by his individual characteristics.

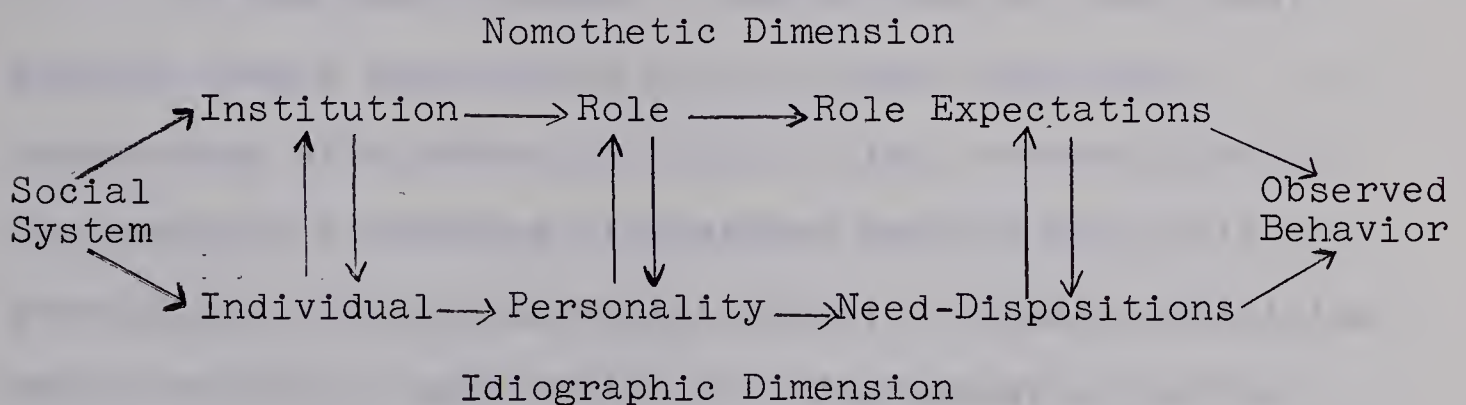


FIGURE 1

RELATIONSHIP OF ROLE EXPECTATIONS AND PERSONALITY NEEDS  
TO EFFICIENT, EFFECTIVE, AND SATISFACTORY BEHAVIOR  
(7, p. 429)



Applying this theory to student teaching, it will be recognized that the behavior of the student teacher is evaluated in terms of the role he occupies and the perceived expectations of what happens in the classroom. The student teacher's personality needs also affect his behavior and must be considered in the evaluation. Since the role of a student teacher is not highly and exactly defined, it would be expected that the student's attitudes would play an important part in the evaluation. Should the attitude disagreement reach a level of intolerance, conflicts could arise. This, in turn, could be expressed in the form of a lower rating.

## II. PRINCIPLE OF CONGRUITY

### Congruence of Own and Others' Attitudes

It has been frequently stated that an individual strives toward consistency within himself and when interacting with others (1,4,16). Also, one can find in the research literature discussions dealing with role perceptions, fulfilling expectations, or simply exhibiting behavior that is appropriate in a particular situation.

Osgood and Tannenbaum (13) have observed that individuals try to make their actions similar to those of reference persons. This observation has been formulated into what is called the "principle of congruity", which states





that "changes in evaluation are always in the direction of increased congruity with the existing frame of reference" (13, p. 43). Festinger (5) interprets this same concept in a slightly different manner. He feels that in order to attain consistency "there is pressure to produce consonant relations among cognitions and to avoid and reduce dissonance" (5, p. 9). In a teacher training situation, perceived similarity between one's attitude and the cooperating teacher's attitude provides a more comfortable and rewarding situation.

It is psychologically "right" that another person who is rewarding in an over-all way should also be rewarding in this particular way, but unfitting that a person who is otherwise admirable, likable, or trustworthy should have attitudes that one finds distasteful or incongruent with one's own. Disagreements are acceptable depending upon the time, place, or topic whereas agreements do not seem to have as many limitations or restraints placed on them. The application of congruity during the process of teacher evaluation can be illustrated (Figure 2).

The symbol (P) refers to the person being evaluated, (O) stands for the reference person being observed, and (X) could represent an object, a teaching procedure, a policy statement, or any of the five major classifications on the Student Teaching Progress Report (Appendix B).



Configurations (Figure 2 (a) and (b) ) show attitudinal congruence between person (P) and another person (O) with respect to some attitude object (X). The attitude of person (O) toward (X) is, of course, his attitude as perceived by (P). These two configurations illustrate a congruent situation because person (P) has the same, or perceives person (O) to have a similar regard for (X). In one instance the object in question (X) is regarded favorably by both individuals, while in the other case it is considered to be unfavorable. The important thing here is that (P) has the same expressed attitude toward (X) as does the evaluator (O).

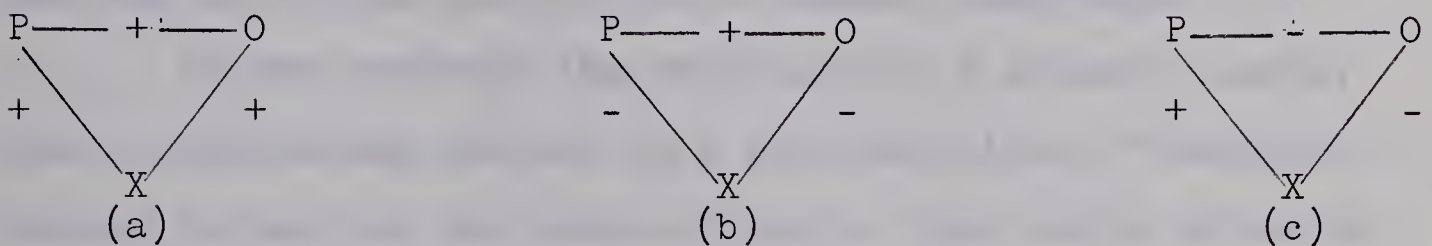


FIGURE 2

#### CONGRUITY AND INCONGRUITY IN OPERATION

During student teaching, (X) could stand for the cooperating teacher's perception of the student teacher or his attitude toward a policy statement with (P) and (O) representing the student teacher and the cooperating teacher respectively. The signs (+ and -) merely indicate a





favorable or unfavorable regard for X.

This thesis, however, is mainly concerned with a situation of incongruity (Figure 2 (c) ). Person (P) has not, in this instance, perceived correctly the attitude expressed by the other person (O) toward the object in question or he may not agree with the view held by (O). Within the conditions outlined in the text and for other relationships not illustrated here, the principle of congruity suggests that configuration (Figure 2 (c) ) occurs less frequently and is more unstable than the preceding two. The effects suggested by the principle will be most apparent when the persons involved are in agreement with one another and the policy in question is of mutual importance.

If one recorded the reactions of a student teacher and a cooperating teacher to a statement like, "Teachers should be paid on the basis of merit," one could determine the amount of agreement or disagreement by weighing the responses. The principle of congruity suggests that the student teacher, when striving for congruence, might try to give a response which closely resembles that of his evaluator, the cooperating teacher. There is also a tendency for new members of a profession to try to become more like the experienced members (16,17).



### Perception and Congruity

Articles and books by Newcomb (11), Festinger (3,4,5), and Osgood (13) have all proposed the general hypothesis that individuals tend to balance their perceptions into an attitudinally consistent structure; that is, they attempt to express attitudes which are congruent to those of the reference person. The principle of congruity was proposed during the 1960's as an explanation for certain behavior changes. In this thesis, the principle is offered as a theoretical construct affecting and contributing to teacher evaluation.

The concept of congruity is often stated as an attempt by people "to shift in attitude toward the speaker and toward the speech topic so as to produce congruous attitudinal structures" (1, p. 142). Here, the person makes a conscious effort to reduce attitude differences. For instance, if an individual has a favorable attitude toward Lester Pearson and an unfavorable attitude toward federal aid to education, the principle of congruity states that when the individual reads a newspaper story headed by the statement, "Pearson Favors Federal Aid to Education," there will be pressures for the individual to shift his attitude to a more congruous position; perhaps by becoming less favorable toward Pearson or more favorable toward the concept. Osgood and Tannenbaum (13) conclude that





application of the principle of congruity yields fairly accurate predictions.

If congruity operates during student teaching, it should be possible to determine the extent to which expressed attitude disagreement or agreement is related to evaluation.

The general hypothesis for this study, in relation to the principle of congruity, might be stated as a question. When a supervisor evaluates teachers, is the resulting report a measure of the competence of the teachers, or does it reflect, in part, the values and preferences of the observer? Incongruity, or what Festinger (5) calls dissonance, actually involves a violation of expectations. Cooperating teachers may expect trainees to support concepts which they favor. When a favored source supports a disliked concept, a violation of expectations takes place and incongruity is produced; thus a lower rating may be assigned.

### III. SUMMARY

This chapter of the thesis has reported that one's perception and sensitivity to the attitudes of others contributes to the success in fulfilling a particular role. The theoretical framework underlying this study has shown, in the discussion of the principle of congruity, that:

- (1) an attitude is changed in the direction of increased congruity with the existing frame of reference;
- (2) one may





be evaluated more favorably when maximum agreement is present; and (3) a predictable relationship exists between one's effectiveness and congruity of perceptions, expectations, and attitudes.



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## CHAPTER III

### REVIEW OF THE RELATED LITERATURE AND RESEARCH

In Chapter I the problem was stated and the terms defined. The problem, briefly stated, was to determine if there is a relationship between the student teacher's mark and his attitude incongruity score. The sub-problems were to determine if there was a relationship between the criterion "student teaching mark" and the variables: sex, route, and number of years spent in the faculty of education. In Chapter II the theoretical framework and rationale underlying the hypotheses were developed and discussed.

This section of the thesis examines the hypotheses in reference to the related literature. The discussion to follow is limited to those studies which deal with supervisor-teacher attitude difference and its effect on teacher evaluation. Furthermore, the study recognizes that student teaching success is not, in itself, an explicit criterion. "It is, rather, a standard of performance in a specific work situation that some individuals are said to manifest" (8, p. 420).

#### I. RATINGS AND TEACHING SUCCESS

There is evidence to suggest that the cooperating



teacher's rating of a student teacher may be influenced by expressed attitude congruency (2,16). In fact, Clarke (2) suggests that cooperating teacher's ratings of student teachers may be influenced by factors which are irrelevant, if not actually antithetical to effective classroom performance. Tyler (12) reports that home satisfaction, analytical thinking, and emotional stability have little influence on teaching effectiveness. Wandt (21) concludes that teachers with agreeable attitudes toward administrators received superior ratings from their administrators.

In 1953, Fink reported a significant correlation between the principal's rating and the teacher's score which implied that evaluators tend to favor more conforming values among their subordinates. Ohlsen and Schultz (13), doing a content analysis, report that poorer student teachers as compared with good ones were more likely to: (1) hold extreme attitudes and (2) reveal attitudes which were not consistent with those held by the cooperating teachers. There is a possibility that those considered poorer were not evaluated mainly on their teaching competence.

## II. ATTITUDE AND CORRELATIONS WITH EVALUATIONS

Cook and Medley (4) developed a Ta (Teacher attitude) scale to "measure a person's ability to get along well with others" (4, p. 414). The Ta scale was comprised of two





subscales: Ho, reflecting "generalized hostility" to people and Pv, reflecting "Pharisaic Virtue." When administered to a group of graduate students in education, the Ho, Pv, and Ta scales correlated  $-.44$ ,  $-.46$ , and  $-.50$  respectively with the Minnesota Teacher Attitude Inventory.

The Word Completion Form was used by Reed (16) in 1955 with 104 high school teachers. In addition, he used the Sentence Completion Test (SCT) containing 91 items which measured the subject's "attitude of acceptance" of himself and his environment. High scores were given to responses that indicated a self-accepting attitude. Most of the correlations between students' evaluations and SCT scores ranged between  $.23$  and  $.78$ .

### III. BIAS IN SUPERVISOR RATINGS

A source of bias in supervisor ratings has been reported by Seagoe (19) who found that of prospective teachers, those who were rated lower during student teaching were more likely to have higher verbal intelligence as measured by the Miller Analogies Test than those who were accepted despite the fact that the MAT scores were correlated positively with success in practice teaching. These results illustrate the frequently noted inconsistency between achievement in teacher-training programs and subsequent success as a teacher. Criteria, more compatible





with teacher training purposes, must be used if one wishes to avoid being confronted by a situation where the more agreeable practice teachers are rated higher.

Getzels and Jackson (10) reported that the most popular instrument for the measurement of teacher attitudes is the Minnesota Teacher Attitude Inventory (MTAI). A study made on the ratings of student teachers by advisors in terms of: (1) nature of subject matter taught and (2) level-item (elementary or secondary) was reviewed by Getzels and Jackson. This study, not fully reported here, is mentioned because of the explanation given for the difference in scores of the two groups. The respective MTAI scores for the two groups were 41 and 28, differing significantly at the .01 level. Although one explanation was given for the findings, an equally tenable one may be that "individuals who choose to teach special subjects are basically different in attitude structure from the other teachers" (8, p. 513).

Rocchio and Kearney (17), in their study revealed a rather interesting occurrence for high school teachers who think in terms of subject matter to be covered rather than in terms of what the learner needs, feels, or can do which may be stressed more often at the elementary level. Student teachers training at the secondary level might experience, as the investigators concluded, the inclination of being "more likely to fail pupils than a teacher . . . who is



interested in pupils as pupils" (17, p. 251).

Wandt (21) found that secondary school teachers had less favorable attitudes toward their subordinates, peers, and superiors than did elementary school teachers. This related discovery suggests that students classified on the basis of route do not differ significantly in teaching success; any differences might be due to attitude incongruity.

#### IV. SOCIALIZATION AND ATTITUDE ARTICULATION

When teacher training is conceived as a period of role learning, one can see that it is not unlike the period of socialization of a young child. Some of the same psychological and social mechanisms such as identification, internalization, and reformulation of the self concept undoubtedly are operative. Merton says:

. . . The technical term socialization designates the process by which people selectively acquire the values and attitudes, the interest, skills and knowledge . . . current in the groups of which they are or seek to become a member . . . Socialization takes place primarily through social interaction with people who are significant for the individual . . . (11, p. 287).

During the process of role learning the opportunity arises for attitude expression, some convergent, some divergent. Spindler (20) called attention to the value orientation of teachers and the stress created when the





"traditionally" reared trainees come face to face with the "emergent values" of the working institution. When explaining types of personal adaptation to value conflicts observable among teachers, Spindler concludes that the professional education culture emphasizes the emergent-oriented value system. Prospective teachers acquire their personal culture in a more traditional-oriented, familiar environment, but they encounter a new kind of culture in the teacher-training institution. An anthropologist might call this a discontinuity in the enculturation of the individual. Enculturation refers to "the process through which the individual acquires the culture of his group or society" (20, p. 154).

As to the effects of the training program, Callis (1) demonstrated a significant increase in favorable-toward-children, permissive, and supportive attitudes among college students in their junior year and a significant downward trend in attitude scores among graduates. Oliver (14) found no relationship between elementary school teachers' professed acceptance of certain "principles" of teaching and the practices they were observed to use in the classroom. Ratsoy (15), investigating attitude differences of students in a teacher preparation program, found that there were attitude differences between freshmen, junior, sophomore, and senior education students. He reported that "...five





F ratios calculated on means were significant, three beyond the .001 level of confidence, a fourth was significant at the .005 level, and a fifth at the .025 level" (15, p. 187). The study also found that prospective teachers, in alternate programs of teacher preparation, differed in attitudes. The education seniors scored higher means than the freshmen, junior, and sophomore students significant beyond the .001 level on the Education Profession Attitude Questionnaire.

If one accepts these findings, then one might hypothesize that expressed attitudes which are incongruent with those of the evaluator, influence and account for some variation in evaluation by supervisors, consultants, and administrators. Furthermore, one can infer that the transition from student to teacher entails a drastic role reversal for the individuals involved.

## V. ROLE RELATIONSHIP INFLUENCES ON ATTITUDES

There are studies which indicate that student teachers change in their attitudes during a student teaching experience (5,8). One study (5) indicated that education students become more concerned with the expectations and perceive cooperating teachers as having become more concerned with satisfying personal needs. Day's (5) study further reveals that it can not be said that the individual student teachers become more similar to their cooperating



teachers.

These generalizations imply that until this process of acculturation from student to teacher is completed, attitudes expressed toward the professional organization, subject matter, or methods of discipline may be incongruous with those accepted by the "professionals". One might predict that where attitude disagreement or lack of harmony exists, there will be a significant variation in the evaluation accorded.

## VI. CRITERIA OF TEACHING SUCCESS

It has been shown that attitude inventories, when analyzed in terms of one or more measures of the relationship between scores and criteria of teaching success, reveal some significant differences. The Heston Personality Attitude Inventory (HPAI) was used by Michaelis and Tyler (12) in a study of 54 elementary school student teachers. Three of the subtests, confidence (adjusts easily to new situations), sociability (takes the lead in social participation), and personal relations (not annoyed or irritated by others) differentiated between groups of good and poor teachers at better than the .10 level. The correlations of these three subtests and supervisor's ratings varied from -.37 to -.14. The multiple correlations among the variables, .46, was accepted as being significant because the correlational





analysis verified that personal relations (tolerance toward others), sociability, and confidence are more likely to differentiate between high and low ratings in student teaching than are analytical thinking, home satisfaction, and emotional stability.

## VII. RATINGS AS A REFLECTION OF OUR PREFERENCES

The present study is rooted in the principle of congruity and Clarke's (2) observation after performing an objective evaluation of student teachers which asks, "when a supervisor evaluates teachers...does it reflect in part the values and preferences of the observer?" (2, p. 14).

In a teaching context, one may hypothesize that rated student teaching success is related to the cooperating teacher's preferences. The education student could be evaluated by two observers: one may come away praising the trainee for his creativity and flexibility; the other may deplore his wandering from a stated plan, or his lapses of discipline. In this example, an evaluation report is a function only in part of the characteristics of the teacher; it reflects also the attitude of the observer.

Evidence supporting this statement can, in part, be found in one of the studies reviewed. The investigation, on the Campus School at the State University College at Portland, by Clarke (2) revealed that the rating by evaluators





for any given student ranged from a low of 30 to a high of 57 points, or a difference of 27 points in the rating. Upon further processing and studying for evidence of bias, a significant and interesting trend was discovered.

Child-centered evaluators tended to overrate child-centered student teachers and underrate academically-oriented student teachers.

It has been found that the assessment by alter groups is in terms of the degree to which the incumbent's perceived behavior is congruent with their expectations. The Ferneau (6) study of the interaction of consultants and administrators in the school setting attempted to determine why a consultant may be rated as effective in one situation and not in another. A problem-situation instrument, designed to determine the expectations which each actor had for the other, was devised and given to administrators who had been known to have used consultant services and to consultants who had rendered these services. The results showed that when administrators and consultants agreed, they tended to rate the consultation favorably; when they disagreed, they tended to rate it unfavorably. The study supports the main hypothesis that when expressed attitude congruency is present, the preparing teacher may be rated as successful.

Observers often can watch lessons taught through



one-way vision windows of observation rooms. Occasionally, through some mishap, the classroom lights are shut off and the watcher finds himself staring at his own image in a window suddenly transformed into a mirror. The analogy is a haunting one for evaluators. When one watches a teacher at work in the classroom and evaluates the lesson, to what extent is the report a window into the classroom and to what extent a mirror reflecting one's personal background and attitude preferences? The present study may be timely in that some evidence and further knowledge will be made available to supply a satisfactory answer to the question.

### VIII. SUMMARY

Many studies report significant differences between selected personality variables, the teacher preparation program, and evaluations or ratings of supervisors. Some studies focus on the possible bias in supervisor ratings of student teachers. These studies indicate that:

1. Ratings given to student teachers are significantly influenced by factors which are irrelevant to classroom performance. In other words, due to a difference in attitude agreement there was a variation in assessed ratings.
2. If the expressed attitudes were in agreement with those of the superior, a higher rating was given.



3. The better prospective teachers are more likely to exhibit less extreme attitudes.

4. The teachers trained or being trained in special subjects receive lower ratings than those in a general pattern.

5. Practicing teachers classified by social category differ significantly on several personality variables.

Correlation coefficients obtained between scores on various personality inventories and teaching success indicate that personal adjustment is directly related to teaching success. One may conclude, as did Clarke (2), that congruity in role behavior and attitude expression plays an important part in the total assessment of the individual. The related literature suggests that if the incumbent's behavior is to be considered effective, it is important that the individual's expectations which define his role be as congruent as possible with the expectations held by reference persons.





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## CHAPTER IV

### RESEARCH DESIGN

#### I. INSTRUMENTATION

For this study two instruments, the Student Teaching Progress Report and the Education Profession Attitude Questionnaire, were used. Also a general information questionnaire, constructed especially for classifying students, was included. The questionnaire requested information on the following:

- (a) name
- (b) field of concentration
- (c) sex
- (d) degree holder of another faculty
- (e) route--elementary or secondary
- (f) number of years spent in the faculty of education

#### Student Teaching Progress Report

The Student Teaching Progress Report (Appendix B) is an appraisal form used by the Student Teaching Division for several years. Each student is rated as exceptional, very good, average, passable, or inadequately prepared on six aspects of teaching: preparation, presentation, communication skills, contact with pupils, classroom management, and personal qualities. Space is provided for





comments on each student's strengths, weaknesses, and for a summary of the education student's probable success in teaching. The five descriptive classifications: exceptional, very good, average, passable, and inadequately prepared each have three sub-divisions: plus, middle, and minus. The fifteen point scale is the product of five major classifications and three sub-divisions in each classification. Then a numerical mean is calculated for each student on the basis of equal contributions made by each evaluator. Each progress card is checked for consistency between comments and rating. A stanine grade on the basis of a ranked pattern of percentages is established. This grading system has as its strength a competitive mark. The main weakness lies in that expectations, perceptions, and the quality of the evaluators vary.

#### The Education Profession Attitude Questionnaire

The Education Profession Attitude Questionnaire (Appendix A) was designed by Ratsoy (5) for use in his doctoral study. After being administered to 144 education seniors in 1964, the EPAQ was revised, with the reliability on equivalent halves calculated by the Spearman-Brown prophecy formula. A reliability coefficient of .48 was reported; but later some statements were revised for better item discrimination.



The EPAQ consists of twenty Likert-type items designed to measure attitudes of prospective teachers to policy statements of the Alberta Teachers' Association.

The respondents rate each stimulus item on a five point scale selecting one of the following: (a) strongly agree, (b) agree somewhat, (c) undecided, (d) disagree somewhat, or (e) strongly disagree. Items are scored on a five point scale with five awarded to the most positive alternative and a value of one to the most negative. Where the accepted policies of the ATA have been stated in a negative way, the marking is reversed, so that five points are given for Ds and one point for As. The attitude incongruity score is the sum of the differences over the items as calculated by the formula:

$$AIS = 80 - \sum_{i=1}^n di$$

The symbols in the formula mean: AIS (attitude incongruity score), 80 (possible maximum incongruity score),  $\sum di$  (sum of the differences of items for two people),  $i$  (items vary from 1 to  $n$ ), and  $n$  (number of items on the questionnaire).

## II. THE SAMPLE

The sample consisted of University of Alberta students in the Faculty of Education who completed their





student teaching during the 1967 spring term. Of the 143 students in the sample, twenty-two were graduates of another faculty, sixty-nine were in the secondary route, and fifty-two were in the elementary route. All members of the sample were in the social studies pattern.

At the beginning of the second term, the students were asked to participate in the study with the understanding that an interpretation of the scores would be made available to them. It was pointed out to the cooperating teachers and student teachers taking part in the study that all information collected would be treated in a confidential manner.

The inventory was administered to the education students upon the advice and suggestion of S. A. Earl, Director of Student Teaching, Faculty of Education, University of Alberta, Edmonton. Student teachers were notified by means of a visit to the lecture rooms, at which time the questionnaire was completed. The elementary students received their questionnaires in their mailbox and upon completion returned them to a mailbox for collection. After obtaining the names of the required cooperating teachers, an appointment was made with the public and separate school superintendents to discuss the study and to gain access to the schools.

The size of the sample was determined by statistical





requirements entailed in the attitude incongruency study. Since correlations computed with N of less than forty require rapidly increasing rho's for significance, a minimum sample of 120 participants was desirable. This would allow a working sample of at least 60 to 40 to compute with N of no less than 40. The number of people included in the sample was 143 which represents about 86 percent of the total group receiving a questionnaire. The means for each category are listed in Table II. A more detailed discussion of the sample and the findings are given in a separate section (Chapter V, p. 69).

TABLE I

DISTRIBUTION OF THE SAMPLE BY ROUTE, PROGRAM, AND YEAR

Year of Program	Elementary Route	Secondary Route (Undergraduate)	Secondary Route (Graduate)	Total
First Year Education			20	20
Second Year Education	46	41	2	89
Third Year Education	6	28		34
Total	52	69	22	143



TABLE II

ATTITUDE INCONGRUITY AND STUDENT TEACHING MEAN  
OF EACH CATEGORY IN THE SAMPLE

Category	Student Teaching Mean	Attitude Incongruity Mean
Graduate Secondary Social Studies Majors	11.25	23.97
Undergraduate Secondary Social Studies Majors	10.10	23.13
Undergraduate Elementary Social Studies Majors	9.35	28.78
Total Sample Mean	9.9091/15	23.4196/80



### III. DATA COLLECTION PROCEDURES

1. After each individual had completed the inventory, the cooperating teachers used the self-addressed envelope provided to mail their inventory to the investigator and the student teachers placed theirs in the designated mailbox where the investigator made a daily collection.

2. The names of the student teachers and the cooperating teachers in the sample were coded to ensure their anonymity.

3. The cooperating teachers' ratings of student teachers for the spring term of student teaching were obtained from the Division of Student Teaching upon the consent of the Director.

### IV. ANALYSIS OF DATA FOR HYPOTHESES TESTING

#### Data Processing and Statistical Tests Used

Participants' responses to the questionnaire and student teaching ratings were recorded and computed by hand and by machine. Responses of the participants to the EPAQ were punched onto cards, each card containing the following information: code number, sex, route, years spent in the faculty of education, attitude incongruity score, and student teaching rating. Computer programs were used to furnish information about the sample as to: mean score on





the attitude questionnaire and mean score of the student teaching rating. Correlations were obtained between attitude incongruity scores, sex, route, and number of years spent in the faculty of education and the student teaching ratings.

### Multiple Linear Regression Analysis

To test the hypotheses, multiple linear regression analysis was used. The continuous variable, attitude incongruity score, was changed to a categorical vector on a ten point interval. This alteration resulted in five more predictor variables being generated. The categorical vectors were named:  $X_{10}$ , which represents the attitude incongruity scores that were less than or equal to 10;  $X_{11}$ , those ranging from 11 to 20 inclusive;  $X_{12}$ , those ranging from 21 to 30 inclusive;  $X_{13}$ , those ranging from 31 to 40 inclusive; and  $X_{14}$ , those ranging from 41 to 50 inclusive.

The criterion was correlated with the thirteen predictor variables. The term correlation refers to the degree of correspondence or relationship between two variables. Measures of correlation are concerned with determining how strongly such variables are linearly related but are not capable of solving prediction problems. Methods that have been designed to handle these problems are known as regression methods. Multiple linear regression is the



basic technique in such a study.

In linear regression, the vector concept is stressed because the vector is the basic unit used in formulating specific regression models. Vector notation, in any study, is a convenient means of representing sets of scores. A vector, then, is an ordered set of numbers, called elements, arranged in a row or as a column (2). Linear prediction reduces to the problem of fitting a straight line to a set of points by using the method of least squares. Values for the weights of the predictor vectors in the linear combination are chosen so that the sum of squares of the elements will be as small as possible when observed criterion values are compared with estimated values. This minimum sum of squares is referred to as the error sum of squares. It indicates the inaccuracy with which observed criterion values are estimated on the basis of a knowledge of category or class membership. A comparison of the error sum of squares obtained from the restricted linear combination with the error sum of squares for the unrestricted linear combination provides a basis for the acceptance or rejection of the hypothesis. Generally, the greater the amount by which the error sum of squares (ESS) for the restricted model exceeds that for the unrestricted model the more confident one can be in rejecting the hypothesis. Under certain assumptions, an





F statistic to test the hypothesis is computed from a comparison of the full model (where all the variables are retained) and the unrestricted model (where the effect of a particular variable is ignored by assuming that the means are equal). To test whether one model is superior to the other, in a statistical sense, involves the use of error sum of squares or the squared multiple correlation ( $R^2$ ) for each model. What has been presented, in a brief way, is the application of regression theory to the problem most frequently described as One-Way Analysis of Variance. A more detailed description of this procedure is included in Chapter V.

All relevant data from the multiple linear regression analysis were set out in tables for easy reference and cross checking (Appendix D).





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## CHAPTER V

### RESULTS OF THE STATISTICAL ANALYSIS

The purpose of the study was to investigate the relationship between student teacher evaluation and attitude incongruity. In Chapter I, the hypotheses and sub-hypotheses were developed from a theoretical analysis of the problem and a review of the related literature. The main hypothesis was concerned with identifying the effect of attitude incongruity on the student teaching mark while the variables sex, route, and years spent in the faculty of education were ignored. In the present chapter the hypotheses are stated, the method of testing them described, and a discussion of the results presented.

For the purpose of hypotheses testing, measures of the four predictor variables (sex, route, years, and attitude difference) and one criterion variable (student teaching mark) were obtained. Evidence, in the form of F ratios and probabilities, to test the hypotheses was examined by the application of multiple linear regression methods. The critical level of significance for the F ratio was set a priori at .05. Where comparisons of individual means following a significant F ratio were thought necessary, a t test was applied.



# I. STUDENT TEACHING EVALUATION AND ATTITUDE INCONGRUITY

Hypothesis 1 was concerned with determining the relationship between the student teaching mark and the attitude incongruity score.

Hypothesis 1: The student teaching mark is contingent upon the attitude incongruity score.

## Models To Test The Hypothesis.

### Model 1

$$X_8 = A_1X_1 + A_2X_2 \dots + A_7X_7 + A_{10}X_{10} \dots + A_{14}X_{14} + \text{error}$$

Model 1, referred to as the full model, expresses the relationship between the criterion  $X_8$  and the variables  $X_1$  to  $X_7$  and  $X_{10}$  to  $X_{14}$ . In this statement sex is represented by  $X_1$  and  $X_2$ ; years spent in the teacher preparation program  $X_3$ ,  $X_4$ , and  $X_5$ ; route  $X_6$  and  $X_7$ ; and incongruity scores  $X_{10}$ ,  $X_{11}$ ,  $X_{12}$ ,  $X_{13}$ , and  $X_{14}$ . The criterion, student teaching mark, is shown by  $X_8$  and the letter A refers to the mean of each variable..

Apply assumption that:  $A_{10} = A_{11} \dots = A_{14} = A$

### Model 2

$$X_8 = A_1X_1 + A_2X_2 \dots + A_7X_7 + A(X_{10} \dots + X_{14}) + \text{error}$$

Model 2, referred to as the restricted model, assumes that the means are equal for the attitude incongruity scores.





The question now is as follows:

"How much better is Model 1, where attitude incongruity score is retained in the model, than Model 2 where attitude incongruity score is ignored?"

or as

"Is there a significant loss in ability to predict student teaching success if one ignores the attitude difference score?"

Two methods may be used to determine whether Model 1 is superior to Model 2 in a statistical sense. One method involves the use of error sum of squares (ESS). By keeping the ESS at a minimum the best prediction of the criterion measure is attained. Simply, this means that: if ESS is small, goodness of prediction is high and if ESS is large, goodness of prediction is low. Therefore, in minimizing the error of prediction one maximizes the correctness of prediction. The measure to be used to reflect the maximized correctness of prediction is the multiple correlation (R) or the squared multiple correlation ( $R^2$ ).

To test whether a significantly better prediction can be made knowing attitude incongruity score (retaining  $A_1 \dots A_7$  and  $A_{10} \dots A_{14}$  as in Model 1) than not knowing the attitude incongruity score ( $A_{10} = A_{11} \dots = A_{14} = A$  as in Model 2) the following ratio will be defined:

$$F = \frac{(R_1^2 - R_2^2)/d_{f1}}{(1 - R_1^2)/d_{f2}}, \text{ where}$$



$F$ --is the 'F' statistic, a value used to determine whether a statistically significant result has occurred.

$R_1^2$ --the squared multiple correlation, the "goodness" of prediction for Model 1.

$R_2^2$ --the "goodness" of prediction for Model 2

$d_{f1}$ --degrees of freedom for the numerator.

$d_{f2}$ --degrees of freedom for the denominator.

The information obtained from comparing Model 1, which contains attitude incongruity score and Model 2, which ignores attitude incongruity score, is shown in Table III.

TABLE III

F RATIO AND PROBABILITY FOR ATTITUDE INCONGRUITY  
AND ITS RELATIONSHIP TO  
TEACHING SUCCESS

Treatment	Data
$R^2$ Full Model	.11351
$R^2$ Restricted Model	.03863
D F N/D	4/137
<u>F</u> Ratio	2.8295
Probability	.02718

Findings. The F ratio for comparing Model 1 with





Model 2 is 2.8295, dfn is 4, dfd is 137, the  $R^2$  (squared multiple correlation) for Model 1 is .11351, and the  $R^2$  for Model 2 is .03863. The probability of observing an F ratio as large as 2.8295 or larger, given that no differences exist among the group means, is 0.03.

Discussion. The significance of the F ratio supports the basic hypothesis. It appears that there is an over-all, general relationship between the mark a student teacher receives and incongruity of attitudes between the cooperating teacher and the student teacher. The significant relationship may be explained in at least three ways: the relationship was shown by the instrument as a result of an accumulation of weaknesses in the questionnaire itself; there may be other variables affecting student teaching success; or the relationship is definitely there. From this significant result it seems reasonable to suggest that expressed attitudes play an important role in the evaluation of student teachers.

At this point in discussing the results, reference is made to Figure 3, which has been constructed from the correlation coefficients given in Table IV. It is important to note that the correlation coefficients used were not significant at the level set a priori. Figure 3





TABLE IV

PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS  
OF THE PREDICTOR VARIABLES AND  
THE CRITERION, STM

Predictor Variables and Correlation Coefficients	Criterion Variable Student Teaching Mark	N
Attitude Incongruity Scores		
LE 20 . . . . .	-0.207*	47
GE 21 and LE 30 . . . . .	-0.123*	76
GE 31 and LE 50 . . . . .	-0.265*	20

\* Correlation coefficients were not  
significant at the .05 level.

Total Number = 143

GE refers to "greater than" or "equal to"

LE refers to "less than" or "equal to"



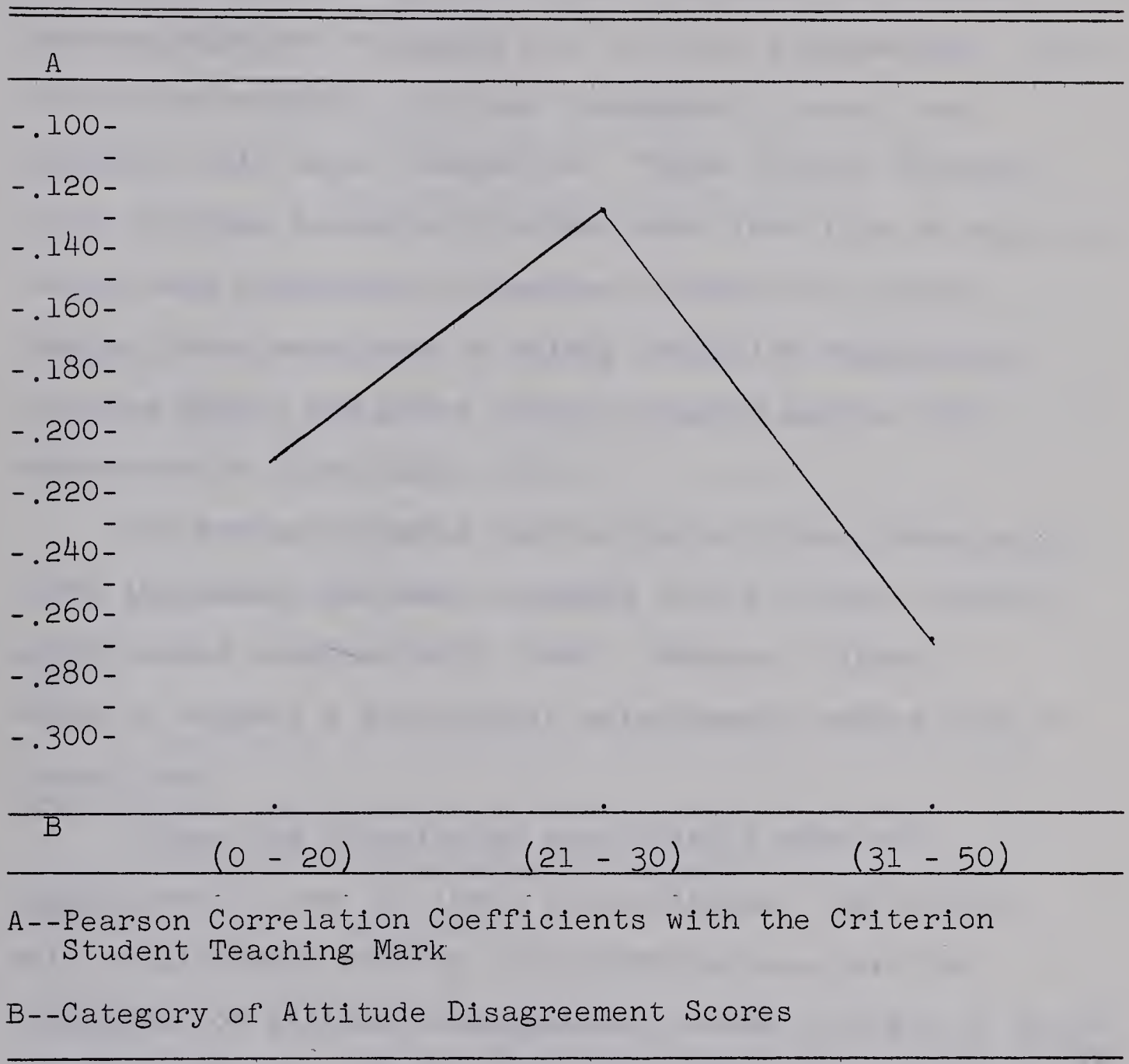


FIGURE 3

RELATIONSHIP OF THE STUDENT TEACHING MARK TO THE  
CATEGORIES OF ATTITUDE DISAGREEMENT SCORES



reveals an interesting relationship between the student teaching mark and categories of attitude disagreement. The continuous variable, attitude incongruity score, was separated into three categories. Those student teachers whose attitude incongruity scores were less than or equal to twenty were considered to compose a group; the scores ranging from twenty-one to thirty inclusive represented a second group; and group three contained scores from thirty-one to fifty (Table IV).

It was anticipated that as the attitude incongruity score increased, the mark assigned to the student teacher would become progressively lower. However, Figure 3 seems to suggest a curvilinear relationship rather than a linear one.

Since the correlation coefficients were not significant at the .05 level of confidence, the results will be discussed briefly. The correlations for the categories of attitude disagreement scores 0 to 20, 21 to 30, and 31 to 50 were  $-.207$ ,  $-.123$ , and  $-.265$  respectively. The category of attitude disagreement scores in the 21 to 30 group may be considered to be an important finding. According to Table IV, the most efficient single predictor contributing negatively to the student teaching mark was attitude disagreement in the 21 to 30 group where the correlation coefficient is not significant at the .05 level





of confidence.

## II. STUDENT TEACHING EVALUATION AND RELATED PREDICTOR VARIABLES

The following hypothesis and sub-problems are mainly concerned with evidence relating student teaching success to such predictor variables as sex, years spent in the faculty of education, and route. For this problem, the null hypotheses were researched with provisions made to consider the alternate hypotheses.

### Sex

Hypothesis 2 stated that there is no significant relationship between the student teaching mark and the social categories sex, route, and number of years spent in the faculty of education.

Hypothesis 2.1.0: Student teachers classified on the basis of sex do not differ significantly on the student teaching mark.

### Models For Hypothesis Testing.

#### Model 1

$$X_8 = A_1X_1 + A_2X_2 \dots + A_7X_7 + A_{10}X_{10} \dots + A_{14}X_{14} + \text{error}$$

Criterion  $X_8$  = student teaching mark

Predictors  $X_1 \dots X_7$  and  $X_{10} \dots X_{14}$  represent male,

female, one year, two years, three years, elementary



route, secondary route, and attitude incongruity scores respectively.

Apply assumption that:  $A_1 = A_2 = A$

### Model 2

$$X_8 = A(X_1 + X_2) + A_3X_3 \dots + A_7X_7 + A_{10}X_{10} \dots + A_{14}X_{14} + \text{error}$$

The hypothesis now is as follows:

"How much better is Model 1, where sex of the student teacher is retained in the model, than Model 2 where sex of the student teacher is ignored?"

Evidence for the null hypothesis, researched by comparing the two models in the same manner described for Hypothesis 1, is set out in Table V.

TABLE V

### F RATIO AND PROBABILITIES FOR SEX AND ITS RELATIONSHIP TO STUDENT TEACHING SUCCESS

Treatment	Data
$R^2$ Full Model	.06652
$R^2$ Restricted Model	.06454
D F N/D	1/137
<u>F</u> Ratio	.2899
Probability	.59



Findings. When comparing the full model with the restricted model, the  $F$  ratio is .2899, the D F (degrees of freedom) is 1/137, the  $R^2$  (squared multiple correlation) for Model 1 is .06652, and the  $R^2$  for Model 2 is .06454. The probability of observing an  $F$  ratio as large as .2899 or larger, given that no differences exist among group means, is .59.

Discussion. The null hypothesis, that the student teachers classified on the basis of sex do not differ significantly on the student teaching mark, was accepted. This may be interpreted to mean that the sex of an education student is not a significant factor in determining one's success in this part of the teacher preparation program.

However, it might be suggested that when one considers the sex of the cooperating teacher and the sex of the student teacher, a variation in evaluation exists. This statement, when tested by means of Chi-squares, was not supported (Table VI). The  $\chi^2$  for this group ( $N = 97$ ) was .31 with three degrees of freedom. It must be 7.82 to be significant at the .05 level (1, p. 407). For this sample, then, the mark a student teacher received was not significantly related to the sex of the cooperating teacher.

It is therefore concluded, from the evidence gathered for this study, that the sex of the evaluator and the





TABLE VI

CHI SQUARE VALUE OF STUDENT TEACHING MARK  
AND SEX OF THE STUDENT TEACHER  
AND THE COOPERATING TEACHER

Category	Student Teaching Mark			Total
	high 11+	medium 8-10	low 7-	
Same Sex of Student and Evaluator	O = 32 E = 30.15	O = 23 E = 22.88	O = 10 E = 10.05	65
Differences in Sex of Student and Evaluator	O = 13 E = 14.84	O = 14 E = 12.2	O = 5 E = 5.33	32
Total	45	37	15	N = 97

$\chi^2$  should be 7.82 with 3 degrees of freedom to  
be significant at the .05 level.

$$\chi^2 = .31$$



education student is not a significant predictor in determining success in student teaching.

### Years of Education

The next hypothesis researched was concerned with the years spent in the faculty of education and its relationship to the student teaching mark.

Hypothesis 2.2.0: Student teachers classified by the number of years spent in the faculty of education do not differ significantly on the student teaching mark.

### Models For Testing The Hypothesis.

#### Model 1

$$X_8 = A_1X_1 \dots + A_7X_7 + A_{10}X_{10} \dots + A_{14}X_{14} + \text{error}$$

Apply assumption that:  $A_3 = A_4 = A_5 = A$

#### Model 2

$$X_8 = A_1X_1 + A_2X_2 + A(X_3 + X_4 + X_5) + A_6X_6 + A_7X_7 \\ + A_{10}X_{10} \dots + A_{14}X_{14} + \text{error}$$

Evidence for testing the hypothesis is reported in Table VII.

Findings. The F ratio for comparing Model 1 to Model 2 is 2.5774, df is 2/137, the  $R^2$  (squared multiple correlation) for the full model is .06652, and the  $R^2$  for the restricted model is .03139. The probability of observing an F ratio as large as 2.5574 or larger, given



TABLE VII

RELATIONSHIP BETWEEN THE CRITERION STUDENT TEACHING MARK  
AND YEARS SPENT IN THE FACULTY OF EDUCATION

Treatment	Data
$R^2$ Full Model	.06652
$R^2$ Restricted Model	.03139
D F N/D	2/137
<u>F</u> Ratio	2.5774
Probability	.07

that no differences exist among group means, is .07.

Discussion. The significance of the F ratio supports the null hypothesis that student teachers classified by the number of years spent in the faculty of education do not differ significantly on the student teaching mark. However, the number of years spent in the teacher training program seems to indicate a closer relationship between teaching success than was found for the predictor sex (Table V). It is, therefore, likely that an investigation concentrating on years spent in the teacher preparation program and teaching success may demonstrate a significant relationship.





In conclusion, although years spent in the teacher preparation program was not found to be a significant factor affecting teacher success, for this investigation, it is possible that the number of years one spends at university has some bearing on the acceptance or rejection of professional values.

### Route

The investigation also considered route as a possible variable which may be related to student teaching success.

Hypothesis 2.3.0: Student teachers classified on the basis of route do not differ significantly on the student teaching mark.

### Models For Testing The Hypothesis.

#### Model 1

$$X_8 = A_1X_1 \dots + A_7X_7 + A_{10}X_{10} \dots + A_{14}X_{14} + \text{error}$$

Apply assumption that:  $A_6 = A_7 = A$

#### Model 2

$$X_8 = A_1X_1 \dots + A_5X_5 + A(X_6 + X_7) + A_{10}X_{10} \dots + A_{14}X_{14} + \text{error}$$

Table VIII contains the data used to test the hypothesis.

Findings. The F ratio for comparing the full model with the restricted model is 1.6734, df is 1/137, the  $R^2$  for Model 1 is .06652, and the  $R^2$  for Model 2 is .05511.



TABLE VIII

RELATIONSHIP BETWEEN STUDENT TEACHING MARK  
AND ROUTE (ELEMENTARY OR SECONDARY)  
OF THE EDUCATION STUDENT

Treatment	Data
$R^2$ Full Model	.06652
$R^2$ Restricted Model	.05511
D F N/D	1/137
<u>F</u> Ratio	1.6734
Probability	.19

The probability of observing an F ratio as large as 1.6734 or larger, given that no differences exist among group means, is .19.

Discussion. In view of the evidence presented, the null hypothesis that student teachers classified on the basis of route do not differ significantly on the student teaching mark was accepted. The lack of a significant relationship may be explained in at least three ways: the relationship may not be there; the relationship may not be shown by the instrument used due to an accumulation of weaknesses in the questionnaire itself; or there may be other variables affecting teaching success in each route,



the measurement of which may demonstrate a significant relationship.

### III. SUMMARY OF THE HYPOTHESES TESTING

#### Student Teaching Evaluation and Attitude Incongruity

The statistics give support to the hypothesis that there is a significant relationship between the student teaching mark, assigned by the cooperating teacher, and the attitude incongruity score measured by the Education Profession Attitude Questionnaire. There is some evidence to indicate that the relationship is curvilinear in nature rather than linear. The student teaching group which had attitude incongruity scores in the 21 to 30 range inclusively has a greater negative relationship than do the others.

#### Relationship of Student Teaching Success to Sex, Route, and Years Spent in the Faculty of Education

The weight of the evidence in this study supports the hypothesis that there is no significant relationship between the student teaching mark and the social categories sex, route, and number of years spent in the faculty of education.





#### IV. OTHER OBSERVATIONS

##### The Sample in General

The sample (N = 143) was nearly equal in terms of sex. Males accounted for 48.25 percent and females 51.75 percent. Table XIII also reveals that the greatest number of student teachers in the sample were in their second year--62 percent, 23 percent were in their third year, and about 14 percent came to the faculty of education after obtaining a degree in another faculty. The secondary graduates and undergraduates comprised 64 percent of the sample while the elementary social studies participants accounted for about 36 percent. For the total sample, the mean of the student teaching marks was 9.9 while the sample's attitude incongruity mean came to 23.4. It was found that 53.8 percent of the sample had attitude incongruity scores in the 21 to 30 range, 30.8 percent in the 11 to 20 range, and about 15.4 percent had incongruity scores greater than 31.

##### Secondary Graduate Participants

More males (72.7 percent) than females (27.3 percent) who have degrees from another faculty elected to enter education in the social studies pattern. This group was rated by cooperating teachers in a range from 7 to 14 out of a possible 15 point scale. Their attitude incongruity



scores ranged from a low of 11 to a high of 47. The high attitude incongruity score of 47, by a male participant, also received the lowest student teaching mark of 7. Out of all the sample, the highest single attitude incongruity score came from this category.

### Secondary Undergraduate Participants

This category was composed of 69.6 percent males and 30.4 percent females, of whom 62.3 percent were in their second year and 37.6 percent were in their third year of teacher education. The cooperating teachers' ratings ranged from a low of 1 to a high mark of 15 (Table XIV). The attitude incongruity score for this group varied from 12 to 34 (Table XIV). Where the graduates had a 40 point spread between the low and high attitude incongruity scores, the secondary undergraduates varied only 20 points. This may be due to the longer time spent in the faculty of education. In this group, the lowest mark, 1, with an attitude incongruity score of 29 was accorded also to a male. This person was also in the category correlating  $-.123$  with the criterion.

### Elementary Participants

The elementary group was composed of 9.6 percent males and 90.4 percent females, of whom 88.5 percent were in their second year, and 11.5 percent in their third year



in the faculty of education. Whereas the secondary graduates and undergraduates were predominately males, the elementary category had a very high percentage of females. Cooperating teachers assigned this group marks from 2 to 14 and their attitude incongruity scores ranged from 10 to 33. In this category, the lowest mark was assigned both to a male and a female who also were in the attitude disagreement category correlating  $-.123$  with the criterion.





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## CHAPTER VI

### SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FURTHER RESEARCH

#### I. SUMMARY

##### The Problem

This study has dealt with relationships between student teaching success as measured by the Student Teaching Progress Report, attitude incongruity as measured by the Education Profession Attitude Questionnaire, sex, route, and number of years spent in the faculty of education. This problem is considered to have significance for practicing administrators and for teacher training institutions.

##### Hypotheses

The basic hypotheses involved in the study were:

- (1) that there is a significant relationship between the student teaching mark and the attitude incongruity score and
- (2) that there is no significant relationship between the student teaching mark and education students classified on the basis of sex, route, and number of years spent in the faculty of education. From these two, four working hypotheses (supra., p. 10) were elaborated.



### Sample

The sample consisted of 143 education students registered in the teacher preparation program at the University of Alberta, Edmonton for the 1966-67 term. The education students were graduates and undergraduates majoring in social studies in either the elementary or secondary route. In addition, there were 110 cooperating teachers from the public and separate schools in Edmonton. These cooperating teachers were assigned, by the Student Teaching Division, principal, and department head, the above mentioned education students for the spring term of student teaching.

### Instrumentation

The measure of student teaching mark used as the criterion for the study was a stanine score derived from the cooperating teacher's evaluation as reported on the Student Teaching Progress Report (supra., p. 42).

Attitude incongruity was measured by means of the Education Profession Attitude Questionnaire (Appendix A), administered to cooperating teachers and education students in the course of a personal visit to the classrooms by the investigator. This instrument, containing twenty Likert-type questions, provides a score on the amount of agreement with expressed policy statements of the Alberta





Teachers' Association.

Sex, route, and years spent in the faculty of education were recorded by means of a general information sheet attached to the Education Profession Attitude Questionnaire. The possible weaknesses of these instruments have been detailed in Chapter IV (supra., p. 42 et seqq.)

### Related Literature

From a review of the literature pertaining to the areas of interest of the study, it was concluded that there is some empirical evidence of the existence of the hypothesized relationships among student teaching success, attitude, sex, years, and route in an educational setting. The evidence available in education and elsewhere is, at times, contradictory. There seems to be a greater weight of evidence that a bias in evaluators influences the student teaching evaluation.

### Collection of Data

Of the one hundred eighty-three education students chosen for participation in the study, one hundred forty-three participated. This response, of about eighty percent, is considered high.

The entire sample, including student teachers and cooperating teachers, were contacted by mail or a personal visit during the second term of 1967, at which time the EPAQ



was administered. Student teaching marks were obtained through the director of the student teaching division. Generally speaking, schools and university departments gave excellent cooperation.

### Results

A significant F ratio was found between student teaching mark and attitude incongruity. Correlations, though not significant, between the criterion and the three categories of attitude incongruity scores suggest a curvilinear relationship (supra., p. 54 et seqq.).

The second hypothesis dealt with the relationship between the student teaching mark and such categories as sex, route, and years spent in the teacher preparation program. There is no evidence to support the contention that the variable sex is significantly related to student teaching success.

A Chi-square test was used to verify that no significant relationship exists when "opposite sexes" and "same sexes" of cooperating teachers and student teachers when jointly considered in the evaluation. In the instance of years spent in the faculty of education and route of the education student, the relationship was not significant. Thus, the null hypothesis for each variable sex, route, and years spent in the faculty of education was accepted.





## II. CONCLUSIONS

The study does not propose to generalize widely from the evidence of this study. Strictly speaking, the only generalization possible is to the population of education students from which this sample was drawn. The conclusions that follow, therefore, are tentative in that they are subject to the assumptions and limitations set out prior to the investigation.

### Student Teaching and Attitude Incongruity

Statistical evidence strongly supports the hypothesis that the mark, assigned to the education student by the cooperating teacher, is significantly related to attitude incongruity as measured by the Education Profession Attitude Questionnaire. There is some evidence to indicate the existence of a curvilinear relationship. This constitutes an important finding within the limitations of the study.

### Relationship of Student Teaching to Sex, Route, and Years

The empirical evidence in this study supports the hypothesis that the student teaching mark assigned by the cooperating teacher is not significantly related to the variable sex. Similarly, education students classified on the basis of route do not differ significantly on the student teaching mark. Also, there is evidence to indicate





that the number of years spent in the teacher preparation program is not significantly related to the student teaching mark. The absence of a significant relationship for sex, route, and years spent in the teacher preparation program may be explained in at least three ways: the relationship may not be there, which seems unlikely from a logical point of view; the relationship may not be shown due to the instrument used; there may be other factors influencing the variables sex, route, and years, the measurement of which may demonstrate significant correlations.

### III. FURTHER RESEARCH

There are a number of new avenues opened up by this study. The most pressing need, and one which must be met prior to any worthwhile replication, is the construction of an instrument designed to measure possible success in teaching. Despite the fact that the EPAQ yielded significant results in this study, it must be revised to suit the particular purpose.

Assuming that a satisfactory revision of the EPAQ is made, other variables related to student teaching evaluation should be examined. In this study, attitude incongruity was mainly related to the student teaching mark, but attitude difference surely is not the only factor determining success or failure in this part of the teacher



training program. Efforts to quantify and study other aspects of evaluation should prove rewarding.

Finally, the entire study should be replicated, with the single change of administering the revised instrument prior to the first round of student teaching, again at the conclusion of the first round, and once at the end of the final round of student teaching to ascertain directional change in extreme instances of attitude incongruity. Such replication would serve the purpose of verifying the results and of demonstrating the extent of their applicability to a more universal situation.

#### IV. IMPLICATIONS

Educational administration, as a field of study, has been based on a set of assumptions supported, at best, by indirect evidence. For the past two decades, these assumptions have relied, to a large extent, on the theories of the school of thought known as the human relations approach which puts a high premium on good interpersonal relations in an organization, particularly the leader and the members of the organization.

Some of the most crucial of these assumptions are examined in this study: the effectiveness of the individual has an influence on the organizational outcomes; the attitude of the individual has an influence on these outcomes and it



is therefore important to the administrative process of evaluation; and the success of education students is influenced by incongruities in these attitudes.

This study has provided some empirical evidence concerning these assumptions. Examining this evidence in more detail, however, does not show a linear relationship as might be expected, but a possible curvilinear one. Finally, there is considerable evidence included in this study that some non-statistical variables as sex, route, and years are not significantly related to the evaluation.





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## A P P E N D I C E S





## APPENDIX A: Instruments & Measures of Assessment

This Appendix contains the instruments and measures used in the study. The instruments are presented in the order in which they were used in the study. The measures are presented in the order in which they were used in the study.

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### APPENDIX A INSTRUMENTS



## EDUCATION PROFESSION ATTITUDE QUESTIONNAIRE

This inventory is part of a study designed to compare selected attitudes of several groups of education students. Part A requests personal background information. Part B contains attitude questions.

All information will be coded on IBM cards. Data will be processed for groups of students. Complete anonymity is assured. In order to secure a high percentage of returns, it will be necessary to later contact those who were not present when the questionnaires were distributed. Your name is requested only for purposes of identifying these persons.

The questionnaire takes about 10 minutes to complete. Work rapidly. First impulses are important. Thank you for your co-operation.

---

### PART A

1. Name.....  
(surname) (given names)
2. Sex-Check One.  
1....Male  
2....Female
3. How many years have you spent in the Faculty of Education? Check One.  
1....Beginning my first  
2....Beginning my second  
3....Beginning my third  
4....Beginning my fourth  
5....More than four years
4. What is or will be your major field of concentration? Check One. (If you have more than one field, check the one that you are most interested in.)

1....English	9....Physical Education
2....Foreign Language	10....Industrial Arts
3....Social Studies	11....Early Childhood Ed.
4....Mathematics	12....Home Economics
5....Biological Sciences	13....Libraries
6....Chemistry	14....Other (specify).....
7....Physics	.....
8....Fine Arts	
5. What route are you in? Check One.  
1....Elementary  
2....Secondary  
3....Vocational



## PART B

## ATTITUDE INVENTORY

DIRECTIONS: A number of controversial statements are given below. Indicate the degree of your personal agreement or disagreement with each statement by circling the appropriate number at the right.

Circle 1--if you agree strongly (AS) with the statement.

Circle 2--if you agree somewhat (A) with the statement.

Circle 3--if you are undecided (U).

Circle 4--if you disagree somewhat (D) with the statement.

Circle 5--if you disagree strongly (DS) with the statement.

- |   | AS | A | U | D | DS |
|---|----|---|---|---|----|
| 1. Schools should be granted greater local autonomy in curriculum building.....   | 1  | 2 | 3 | 4 | 5  |
| 2. Provincial teachers' associations should be able to discipline members for violating teacher ethics.....   | 1  | 2 | 3 | 4 | 5  |
| 3. Curriculum guides issued by the Department of Education should specify methods to be used.....   | 1  | 2 | 3 | 4 | 5  |
| 4. School boards should be elected specifically to manage and administer the schools of the area and should be fiscally independent of municipal authorities..... | 1  | 2 | 3 | 4 | 5  |
| 5. Increased federal aid for education should be provided.....  | 1  | 2 | 3 | 4 | 5  |
| 6. The curriculum authority of the Department of Education should be limited to matters of course objectives and minimum content.....                             | 1  | 2 | 3 | 4 | 5  |
| 7. Provincial teachers' associations should be concerned with the competence of teachers.   | 1  | 2 | 3 | 4 | 5  |
| 8. Effective teaching can be done with more than twenty-five pupils per class.....  | 1  | 2 | 3 | 4 | 5  |





9. The local teaching staff should be consulted at all stages of the planning and designing of school buildings..... 1 2 3 4 5
10. Only those individuals who have teaching certificates should be appointed to the instructional staff of the Faculty of Education..... 1 2 3 4 5
11. The Alberta Teachers' Association should do everything in its power to maintain the right to strike..... 1 2 3 4 5
12. Teachers should accept as part of their responsibility the supervision of pupil deportment on school premises during noon intermission..... 1 2 3 4 5
13. Selection of instructional methods should be a prerogative of teachers..... 1 2 3 4 5
14. Teachers should be paid according to a provincial salary scale..... 1 2 3 4 5
15. Provincial teachers' associations should have the right to recommend cancellation of a teacher's certificate..... 1 2 3 4 5
16. Membership in the provincial teachers' association should be compulsory for all teachers..... 1 2 3 4 5
17. Teachers should be paid on the basis of merit..... 1 2 3 4 5
18. All teachers should be employed and paid by the provincial government..... 1 2 3 4 5
19. Teachers should decide whether or not they participate in or sponsor any particular extracurricular activity..... 1 2 3 4 5
20. Teachers should be compensated for time spent in curriculum writing..... 1 2 3 4 5



## APPENDIX B

### STUDENT TEACHING PROGRESS REPORT



1966-67

STUDENT TEACHING PROGRESS REPORT

Student Teacher..... Degree Holder..  
..... Undergraduate..  
Surname Christian Names

Check Program: Elementary...Secondary...Vocational...  
Industrial Arts...

PREPARATION (academic knowledge, planning, suitability and  
use of lesson materials, log book).....  
.....  
.....

PRESENTATION (motivation, effectiveness of methods,  
adaptability, creativeness).....  
.....  
.....

COMMUNICATION SKILLS (command of English, voice quality,  
audibility, enunciation, pronunciation).....  
.....  
.....

CONTACT WITH PUPILS (pupil reaction, adjustment to grade  
level, attention to individual differences).....  
.....  
.....

CLASSROOM MANAGEMENT (control of class, handling routine,  
giving directions).....  
.....  
.....

PERSONAL QUALITIES (appearance, vitality, response to  
criticism, professional attitude, human relations)  
.....  
.....

GENERAL RATING (Check one)

	<u>+</u>	Very	<u>+</u>		<u>+</u>	Inadequately	<u>+</u>
Exceptional	<u>  </u>	Good	<u>  </u>	Average	<u>  </u>	Passable	<u>  </u>
	<u>-</u>		<u>-</u>		<u>-</u>	Prepared	<u>-</u>





School.....Grade(s).....Round.....  
 Date.....Month.....Year.....

Characteristics of Class(es) taught.....  
 .....

# GUIDANCE AND PLACEMENT INFORMATION

1. Strongest aspect of student teacher's performance  
 .....  
 .....
2. The aspect of the student teacher's performance most  
 in need of improvement.....  
 .....
3. Student response to this student teacher.....  
 .....  
 .....
4. Staff reaction to this student teacher.....  
 .....  
 .....

For the purpose of assisting in the placement of this person  
 as a teacher, please write a summary paragraph describing  
 your estimate of his probable success in teaching. Feel  
 free to include information provided in the assessment of  
 his performance as a student teacher.

.....  
 .....  
 .....  
 .....  
 .....

.....  
 (Signature of Faculty Consultant)



Page 100 of 100  
Appendix C  
Covering Letter to Cooperating Teachers

Dear Mr. [Name]:

The purpose of this letter is to inform you of the importance of the role of the cooperating teacher in the success of the student teacher. We are pleased to have you as a cooperating teacher and we hope that you will find this letter helpful in understanding the role of the student teacher and the importance of the cooperating teacher in the success of the student teacher.

## APPENDIX C COVERING LETTER TO COOPERATING TEACHERS

The purpose of this letter is to inform you of the importance of the role of the cooperating teacher in the success of the student teacher. We are pleased to have you as a cooperating teacher and we hope that you will find this letter helpful in understanding the role of the student teacher and the importance of the cooperating teacher in the success of the student teacher.

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We are pleased to have you as a cooperating teacher and we hope that you will find this letter helpful in understanding the role of the student teacher and the importance of the cooperating teacher in the success of the student teacher.

Sincerely,  
[Signature]



Dept. of Ed. Admin.  
University of Alberta  
Edmonton, Alberta

Dear Sir (or Madam):

As part of my program of studies in the Department of Educational Administration, University of Alberta, Edmonton, I am conducting a study to determine the relationship between student teaching success and attitude congruency. The study which is focused on the assessment of student teachers will require the cooperation of the teachers who were selected to undertake the evaluation of student teachers for this term.

All data collected will be used for research purposes only and will be kept strictly confidential. My record of the names of all respondents will be destroyed as soon as the completed questionnaires are returned.

Your superintendent has given approval to distribute the questionnaire and you have been selected to participate in the study. Upon completion of the questionnaire, please return it by way of the self-addressed envelope.

Since the results of this study depend upon a very high percentage of returns, I would appreciate it if you gave this matter five minutes of your precious time.

I wish to thank you in advance for giving so freely of your time in participating in this research project.

Yours truly,

F. O. Schreiber





## APPENDIX B

### APPENDIX B.1. THEORETICAL RESULTS

Table B.1. Theoretical results for the $\alpha$ - $\beta$ model			
Model	Order of the phase transition	Order of the phase transition	Order of the phase transition
1D	1st	1st	1st
2D	1st	1st	1st
3D	1st	1st	1st
4D	1st	1st	1st
5D	1st	1st	1st
6D	1st	1st	1st
7D	1st	1st	1st
8D	1st	1st	1st
9D	1st	1st	1st
10D	1st	1st	1st
11D	1st	1st	1st
12D	1st	1st	1st
13D	1st	1st	1st
14D	1st	1st	1st
15D	1st	1st	1st
16D	1st	1st	1st
17D	1st	1st	1st
18D	1st	1st	1st
19D	1st	1st	1st
20D	1st	1st	1st

## APPENDIX D

### TABLES



TABLE IX

## SAMPLE DISTRIBUTION BY ATTITUDE INCONGRUITY SCORE

Attitude Incongruity Score		Percent of the Sample
Less Than or Equal to	10	1.40
	11-20 (Inclusive)	30.77
	21-30 (Inclusive)	53.85
	31-40 (Inclusive)	13.29
	41-50 (Inclusive)	0.70



TABLE X

BETA WEIGHTS FOR THE THIRTEEN  
PREDICTORS AND THE CRITERION  
STUDENT TEACHING RATING

Predictor Variables	Number	Beta Weight
Male	69	.034
Female	75	.000
One Year (spent in the faculty of education)	20	1.529
Two Years	89	-.657
Three Years	34	.133
Elementary Route	51	-.588
Secondary Route	92	.000
Attitude Incongruity Score (AIS)	143	-.167
AIS less than or equal to 10	2	2.405
AIS 11-20 (inclusive)	45	.000
AIS 21-30 (inclusive)	76	-1.050
AIS 31-40 (inclusive)	19	.000
AIS 41-50 (inclusive)	1	-4.630





TABLE XI  
CRITERION AND PREDICTOR MODELS

Model	Criterion	Predictor Variables
1	8	1 to 7 9 to 9
2	8	3 to 8 9 to 9
3	8	1 to 2 6 to 7 9 to 9
4	8	1 to 5 9 to 9
5	8	1 to 7
6	8	1 to 7 10 to 14
7	8	1 to 7

#### Predictor Variables

1. Male
  2. Female
  3. One Year Spent in the Faculty of Education
  4. Two Years Spent in the Faculty of Education
  5. Three Years Spent in the Faculty of Education
  6. Elementary Route
  7. Secondary Route
  8. Student Teaching Mark (Criterion)
  9. Attitude Incongruity Score (AIS)
  10. AIS LE 10
  11. AIS GE 11 and LE 20
  12. AIS GE 21 and LE 30
  13. AIS GE 31 and LE 40
  14. AIS GE 41 and LE 50
- LE refers to less than or equal to  
GE refers to greater than or equal to



TABLE XII

## FREQUENCY DISTRIBUTION OF ATTITUDE INCONGRUITY SCORE

	Attitude Incongruity Score										
Route	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	Total	
Elementary	2	3	9	16	16	6	0	0	0	52	
Secondary	0	9	15	23	12	10	0	0	0	69	
Secondary	0	3	5	5	5	3	0	0	1	22	
Total	2	15	29	44	33	19	0	0	1	143	



TABLE XIII

MEANS, VARIANCES, AND STANDARD DEVIATIONS  
OF THE XIII PREDICTOR VARIABLES AND OF  
THE STUDENT TEACHING MARK

Variable	N=143	Means	Variances	S.D.
Predictor Variables				
Male . . . . .		.4825	.249	.4997
Female . . . . .		.5175	.249	.4997
One Year (in Education) . . . . .		.1399	.119	.3468
Two Years . . . . .		.6224	.235	.4848
Three Years . . . . .		.2378	.180	.4257
Elementary Route . . . . .		.3566	.229	.4790
Secondary Route . . . . .		.6434	.229	.4790
Attitude Incongruency Score . . . .	23	.4196	40.704	6.3877
AIS LE 10 . . . . .		.0140	.136	.1174
AIS 11-20 (inclusive) . . . . .		.3077	.213	.4615
AIS 21-30 (inclusive) . . . . .		.5385	.248	.4985
AIS 31-40 (inclusive) . . . . .		.1329	.115	.3394
AIS 41-50 (inclusive) . . . . .		.0070	.006	.0833
Criterion Variable				
Student Teaching Mark. . . . .		9.9091	6.451	2.5499





TABLE XIV

DISTRIBUTION OF SAMPLE BY  
STUDENT TEACHING MARK

Distribution of Student Teaching Mark	Elementary Route	Secondary Undergrads	Secondary Graduates
15		1	
14	1	2	3
13	5	5	3
12	8	11	2
11	4	10	6
10	7	11	2
9	10	15	2
8	7	6	1
7	5	4	3
6			
5	1		
4	1	1	
3	2	1	
2	1		
1		1	
Totals	52	69	22



TABLE XV

## F RATIOS AND PROBABILITIES

Hypotheses and Related Sub-Problems	R <sup>2</sup> Full	R <sup>2</sup> Restr	F Ratio	D F	N/D	Probability
Sex (H <sub>1</sub> )	.06652	.06454	.2899	1/	137	.59
Years (H <sub>2</sub> )	.06652	.03139	2.5774	2/	137	.07**
Route (H <sub>3</sub> )	.06652	.05511	1.6734	1/	137	.19
Attitude Incongruity as Categories (H <sub>4</sub> )	.11351	.03863	2.8295	4/	134	.02*

\* significant at the .05 level of confidence or better

\*\* approaching significance at the .05 level of confidence











**B29875**